CLAIMS

What is claimed is:

Sub B'

1. A housing to receive a semiconductor wafer tray comprising:

at least four positioning kits, each positioning kit comprising:

a primary outside edge at least substantially corresponding to an interior sidewall of the housing; and

an inside edge opposite of the primary outside edge, and having a groove at least substantially corresponding to a part of a frame of the semiconductor wafer tray,

the groove receptive to the part of the frame of the semiconductor wafer tray, to assist maintaining the semiconductor wafer tray in a stable position when the semiconductor wafer tray is completely positioned in the housing.

2. The housing of claim 1, wherein each positioning kit further comprises:

an upper outside edge facing an interior upper wall of the housing; and

a lower outside edge facing an interior lower wall of the housing.

3. The housing of claim 1, wherein the primary outside edge of each positioning kit is fixed to the interior sidewall of the housing to which the primary outside edge at least substantially corresponds.

4. The housing of claim 1, wherein the groove of the inside edge of each positioning kit is shaped to mirror the part of the frame of the semiconductor wafer tray to which the groove substantially corresponds, such that the part of the frame fits snugly inside the groove.

5. The housing of claim 1, wherein the groove is substantially rectangular in shape.

6. The housing of claim 1, wherein each positioning kit is substantially shaped like a letter C.

7. The housing of claim 1, wherein the at least four positioning kits comprises at least one positioning kit at a back end of the housing.

8. The housing of claim 7, wherein the at least one positioning kit at the back end of the housing comprises a first positioning kit at the back end of the housing near a first corner of the housing where the back end and a left side of the housing meet, and a second positioning kit at the back end of the housing near a second corner of the housing where the back end and a right side of the housing meet.

9. The housing of claim 1, wherein the at least four positioning kits comprises at least one positioning kit at a left side of the housing.

10. The housing of claim 9, wherein the at least one positioning kit at the left side of the housing comprises a first positioning kit at the left side of the housing near a corner of the housing where the left side and a back end of the housing meet, and a second positioning kit at the left side of the housing nearer an opening of the housing where the semiconductor wafer tray is inserted.

11. The housing of claim 1, wherein the at least four positioning kits comprises at least one positioning kit at a right side of the housing.

12. The housing of claim 11, wherein the at least one positioning kit at the right side of the housing comprises a first positioning kit at the right side of the housing near a corner of the housing where the right side and a back end of the housing meet, and a second positioning kit at the right side of the housing nearer an opening of the housing where the semiconductor wafer tray is inserted.

13. The housing of claim 1, wherein the housing comprises a quartz tube for a semiconductor fabrication rapid thermal process (RTP).

14. A semiconductor fabrication rapid thermal processing (RTP) assembly comprising:

a reactor block having a slot therein;

a tube fitting in the slot of the reactor block;

a wafer tray accepting a semiconductor wafer on which RTP is

to be performed, the tray slidable into and out of the tube; and

at least four positioning kits fixed inside the tube, each positioning kit having a groove at least substantially corresponding to a part of the wafer tray and receptive to the part of the wafer tray when the tray is slid into the tube to assist maintaining the tray in a stable position within the tube during the RTP.

15. The assembly of claim 14, wherein the groove of each positioning kit is shaped to mirror the part of the wafer tray to which the groove substantially corresponds, such that the part of the frame fits snugly inside the groove.

16. The assembly of claim 14, wherein the at least four positioning kits fixed inside the tube comprise:

at least one positioning kit at a back end of the tube;

at least one positioning kit at a left side of the tube; and

at least one positioning kit at a right side of the tube.

17. The assembly of claim 14, wherein the RTP comprises rapid thermal annealing (RTA).

18. A method comprising:

inserting a semiconductor wafer tray into a housing of a semiconductor fabrication assembly, a frame of the wafer tray fitting snugly into grooves of at least four positioning kits fixed inside the housing;

performing a semiconductor fabrication process on a semiconductor wafer on the wafer tray after the wafer tray has been completely inserted into the housing of the assembly, the wafer tray substantially staying in a stable position during the process due to the frame of the wafer tray fitting snugly into the grooves; and

removing the semiconductor wafer tray from the housing of the assembly, the frame of the wafer tray sliding out from the grooves of the at least four positioning kits fixed inside the housing.

19. The method of claim 18, wherein the semiconductor fabrication process comprises rapid thermal processing (RTP).

20. The method of claim 19, wherein the RTP comprises rapid thermal annealing (RTA).